

SESSION ENDING EXAMINATION 2024-25

SUBJECT: COMPUTER SCIENCE

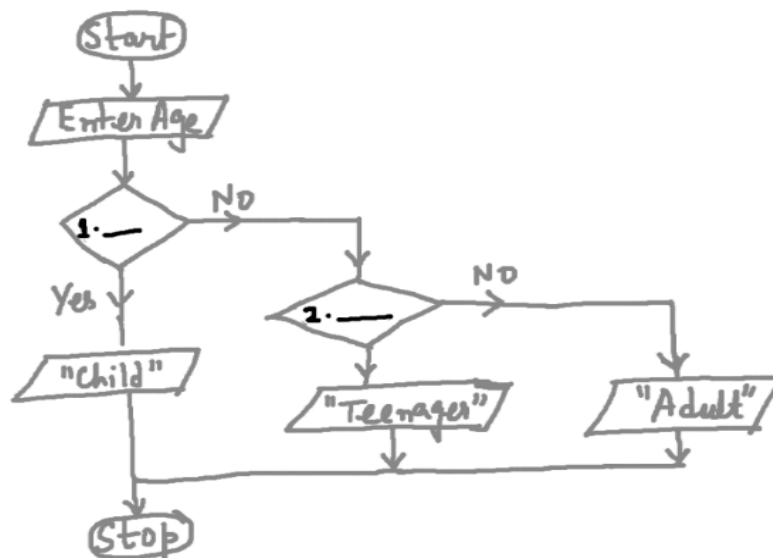
M. MARKS: 70

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- The paper is divided into 5 Sections - A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 marks.
- All programming questions are to be answered using Python language only.
- In case of MCQ, text of the correct answer should also be written.

Q No	Section-A (21x1 = 21 marks)	Marks
1	The Arithmetic Logic Unit performs which arithmetical operation? a. (+ , - , * , /) c. (< , > , = , > = , < >) b. (True, False) d. All of these	1
2	Arrange the following measurement units of memory in ascending order as per their storage capacity? (1.) BYTE, (2.) MB, (3.) GB, (4.) KB a. 1,2,3,4 b. 4,3,2,1 c. 1,4,2,3 d. 1,4,3,2	1
3	Software that can be freely accessed and modified is called? a. Synchronous software b. Package Software c. Open Source Software d. Middleware	1
4	Which of the following is not a language processor: a. Assembler b. Operating system c. Compiler d. Interpreter	1
5	Which of the following is not a function of an Operating System ? a. Processor Management b. Memory Management c. I/O Management d. Rectification of Errors	1
6	ASCII code is a 7 bit code for _____. a. letters b. numbers c. other symbols d. all of these	1
7	Which is the correct sequence out of the following: a. Program--> Flowcharts-->Algorithms--> Analysis b.Analysis-->Flowcharts-->Algorithms-->Program c.Analysis-->Algorithms-->Flowcharts-->Program d. Analysis-->Program-->Flowchart-->Algorithm	1
8	Which of the following is not a valid identifier? a. sum b. lsum c. sum_marks d. _sum	1

9	Function range(8,0,-2) will yield an iterable sequence like a. [8,7,6,5,4,3,2,1,0] b. [7,5,3,1] c. [8,6,4,2,0] d. [8,6,4,2]	1
10	What will be the output of “a”+”bc” ? a. a+bc b. abc c. a bc d. a	1
11	What will be the output for A[6,4], where A= [1,2,3,4,5,6,[1,2,3,4,5]] a. 4 b. 5 c. 6 d. Error	1
12	Which of the following function takes any iterable sequence like list or tuple but always returns a list irrespective of the type of sequence passed to it ? a. append() b. extend() c. sort() d. sorted()	1
13	What is the unauthorized, monitoring of other people's communications called? a. Bullying b. Stalking c. Eavesdropping d. Phishing	1
14	If t=(10,20,30,{2:3,4:5},40,50), then a. t is a List b. t is a Dictionary c. t is a Tuple d. t is a String	1
15	Mention the data type of s, where s=(15,) a. set b. tuple c. list d. None of these	1
16	Identify which declaration of dictionary is correct? a. D1= {1:'CS',2:'IP'} b. D1= {1-'CS',2-'IP'} c. D1= {A:'CS' and B:'IP'} d. D1=[1:'CS', 2:'IP']	1
17	Consider the following code and choose the right option: <pre>import random print(random.randint(10,11)) #statement 1 print(random.randrange(10,11)) #statement 2</pre> a. Both statements can print either 10 or 11 b. Both statements can print only 10 c. statement1 can print either 10 or 11 but statement2 can print only 10 d. statement2 can print either 10 or 11 but statement1 can print only 10	1
18	Which of the following is an impact of Ewaste? a. Deforestation b. Flood c. soil erosion d. Emission of harmful gases	1
19	A websites tracking your online activity without your knowledge is using: a. Active Digital Footprints b. Passive Digital Footprints c. Spamming d. Plagiarism	1
20	In the following question, a statement of assertion (A) is followed by a statement of reason(R). Mark the correct choice as:-	1

	a. Both A and R are true and R is the correct explanation of A. b. Both A and R are true but R is not the correct explanation of A. c. A is true but R is false. d. A is false but R is true. Assertion. People have rights on their online creations too. Reason. Intellectual Property Rights are the rights of an owner to decide how much of their creation is to be exchanged, shared or used.													
21	In the following question, a statement of assertion (A) is followed by a statement of reason(R). Mark the correct choice as:- a. Both A and R are true and R is the correct explanation of A. b. Both A and R are true but R is not the correct explanation of A. c. A is true but R is false. d. A is false but R is true. Assertion. List is a mutable data type. Reason. Mutable data types do not change their value in-place.	1												
	Section - B (7x2 = 14 marks)													
22	a. Draw logic circuit for given Boolean Expression: $(A.B)+(A'.C)$ b. Verify given expression using truth table: $A+B.C=(A+B).(A+C)$	2												
23	Convert the following: <table> <tr> <td>$(675)_{10}$</td> <td>-</td> <td>$()_8$</td> </tr> <tr> <td>$(1110101)_2$</td> <td>-</td> <td>$()_8$</td> </tr> <tr> <td>$(100101.101)_2$</td> <td>-</td> <td>$()_{16}$</td> </tr> <tr> <td>$(2AF)_{16}$</td> <td>-</td> <td>$()_{10}$</td> </tr> </table>	$(675)_{10}$	-	$()_8$	$(1110101)_2$	-	$()_8$	$(100101.101)_2$	-	$()_{16}$	$(2AF)_{16}$	-	$()_{10}$	2
$(675)_{10}$	-	$()_8$												
$(1110101)_2$	-	$()_8$												
$(100101.101)_2$	-	$()_{16}$												
$(2AF)_{16}$	-	$()_{10}$												
24	Given below is a flowchart representation of the algorithm to categorize a person into “Child” , “Teenager” and “Adult” based on his /her age, taking Child for anyone with age less than 13 , Teenager between 13 and 19 and Adult equal to or above 20 years. Write the statements 1 and 2 of the decision box.	2												



OR

Draw a flowchart to find out the largest of three numbers A,B and C.

25	What is the output produced by the following code? x=1 if x>3: if x>4: print('A',end="") else: print('B',end="") elif x<2: if (x!=0): print('C',end="") print('D')	2
26	What possible output(s) are expected to be displayed on the screen at the time of execution of the program from the following code? <code>import random</code> <code>print(100 + random.randint(5,10), end = " ")</code> <code>print(100 + random.randint(5,10), end = " ")</code> <code>print(100 + random.randint(5,10), end = " ")</code> <code>print(100 + random.randint(5,10))</code> a. 102 105 104 105 b. 110 103 104 105 c. 108 107 110 105 d. 110 110 110 110	2
27	Ravan takes Jinti's project report and submit it as his own project report to a company. (a) What type of crime is this? (b) Under which act Ravan can get punishment in India?	2
28	Expand IPR? Define IP with an example. OR	2

	Differentiate between Copyright and Patent with an example of each.													
	Section - C (3x3 = 9 marks)													
29	Write a program to print the grade of 20 students when grades are allocated as given in the table below. Percentage of the marks obtained by the 20 students is the input to the program. <table><tr><th>Percentage of Marks</th><th>Grade</th></tr><tr><td>Above 90%</td><td>A</td></tr><tr><td>80% to 90%</td><td>B</td></tr><tr><td>70% to 80%</td><td>C</td></tr><tr><td>60% to 70%</td><td>D</td></tr><tr><td>Below 60%</td><td>E</td></tr></table> OR Find Output of the following code: <pre>var = 7 while var > 0: print ('Current variable value: ', var) var = var -1 if var == 3: break else: if var == 6: var = var -1 continue print ("Good bye!")</pre>	Percentage of Marks	Grade	Above 90%	A	80% to 90%	B	70% to 80%	C	60% to 70%	D	Below 60%	E	3
Percentage of Marks	Grade													
Above 90%	A													
80% to 90%	B													
70% to 80%	C													
60% to 70%	D													
Below 60%	E													
30	Write a python program to enter a string from the user and perform the following tasks and print the result after all operations: (i) Count the number of alphabets present in the string (ii) Count the number of vowels present in the string (iii) Count the number of spaces present in the string OR Give the output of the following string operations:- (i) “abc” + xyz (ii) “xyz”*5 (iii) “abc” != “Abc”	3												
31	Write any three safety measures to reduce the risk of falling prey to cyber-crime. OR Define: a. Plagiarism b. Copyright violation c. Trademark infringement	3												
	Section - D (4x4 = 16 marks)													

32	Write following arithmetic expressions for a and b using operators in Python and evaluate c. a. $c = a^2 + b$ b. $x = \sqrt{b^2 - 4ac}$ c. Evaluate: $x = 2 * 3 / 5 + 10 // 3 - 1$	1+1+2
33	L = [11,34,56,23,67,78] is a list in python. Write a python statement to:- (i) to remove 78 from the list. (ii) to insert 89 after 23 in the given list. (iii) to clear the contents of the list (iv). to sort the contents of the list in ascending order. OR Write the output of the following: <pre> L=[10, 20, 30] item = L.pop(1) print('ITEM:',item) print (L) list1=[3,2,1,0,1,2,3] list1.remove(3) list1.insert(6,4) print('UPDATED LIST1:',list1) newList=L[:3]+list1[3:] print('NEW LIST:',newList) </pre>	4

34	Given a string str="Python is Fun". statements:- a. str.partition("Fun")
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	b. str.split("n") c. len(str) d. str.lower()
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35	a. Differentiate between Spyware and Adware. b. Write two hazards of improper disposal of E Waste.	2+2
	Section - E (2x5 = 10 marks)	
36	Given a list lst=[2,4,6,8,10,12,14,16,18,20]. Give the output for the following statements:- a. lst[::-1] b. lst.append([22,24]) c. lst[-9:8] d. lst[9:-9] e. lst.extend(26)	5
37	a) Write a Python script to generate and print a dictionary that contains a number as key and its square as value.	3+2

	Input n=5: Expected Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25} b) Explain update () function in Dictionary by giving an example.	
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